C51 language programs for the 8051 should be turned in using the following format:

```c
// Your Name
// Assignment number
// Date
//
// Header describing what program does
//
#include <at89c51cc03.h>      // CC03 library file
// Declare any global variable here
// Put in subprogram prototypes here
//
void main(void)                 //This is the start of the main program
{Declare all variables here
 ... main code goes here
    main code must be a perpetual loop or
    end in a while(1);
}
//
Put in subprograms here
```
A complete example is given on the following page.
This program implements a real time clock in C for the 8051. The interrupt is set for 50,000 ticks. At 12MHz, this is 50 msec. At 6MHz this is 100msec = 0.1 second. The clock increments a minutes variable each 10 interrupts.

```c
#include <at89c51cc03.h>

// Clock variable are global so that they can be accessed anywhere in the program
unsigned char seconds;
unsigned char minutes;
unsigned char TenthsCounter;
// Function prototypes
void OneMinute(void);

void main(void)
{
    TMOD = 0x01;    // Timer 0 mode = not gated, internal clock, 16 bit,
                    // no auto reload
    TH0 = 0x3c;     // Timer 0 high and low byte. Interrupt
    TL0 = 0xb0;     // occurs when timer overflows on up count
    TR0 = 1;        // Timer 0 run control bit in TCON
    ET0 = 1;        // Timer 0 interrupt enable
    EA = 1;         // Global interrupt enable

    while(1);       // Wait here for interrupt
}

// Interrupt service routine uses register bank 1
void OneMinute(void) interrupt 1 using 1
{
    TH0 = 0x3c;               // Reload the count register
    TL0 = 0xb0;
    TenthsCounter++;          // Interrupt at msec/10
    if(TenthsCounter > 9)     // For each 10 update seconds
    {
        TenthsCounter = 0;
        seconds++;
        if(seconds > 59)     // For each 60 seconds update minutes
        {
            seconds = 0;
            minutes++;
        }
    }
}
```